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57299 7590 08/04/2009 Kathy Manke Avago Technologies Limited 4380 Ziegler Road Fort Collins, CO 80525			EXAMINER LEE, JOHN R	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YEE LOONG CHIN,
KEE SIANG GOH, and CHEE KEONG CHONG

Appeal 2009-002849
Application 10/810,173
Technology Center 2800

Decided:¹ July 31, 2009

Before KENNETH W. HAIRSTON, JOHN A. JEFFERY,
and CARL W. WHITEHEAD, JR., *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1 to 22. We have jurisdiction under 35 U.S.C. § 6(b).

We will reverse.

Appellants' invention relates to a polaroid encoder system for detecting movement (Abstract; Fig. 3; Spec. 6-10). The encoder uses a light emitting device and a photodetector to detect the amplitude of illumination passing through a movable polarizing code element (i.e., code disk) and to determine a quadrant of the movable polarizing code element, and then determines the angular position of the code element based on the amplitude and quadrant information (Abstract; Figs. 9-11; Spec. 18-25).

Claim 1, reproduced below, is representative of the subject matter on appeal:

1. A polaroid encoder system for detecting movement, said system comprising:

a movable polarizing code element comprising a first concentric code, a second concentric code and a set of quadrants, the first and second concentric codes in contact with one another over one of the four quadrants of said movable polarizing code element;

a detector module to detect an amplitude based on how much illumination passes through a first portion of said movable polarizing code element, said detector module comprising:

a first illumination detector covered with a first static polarizing filter that is oriented in a first direction;

a second illumination detector covered with a second static polarizing filter that is oriented in a second direction;

a first determination module to identify a quadrant of said movable polarizing code element based on how much illumination passes through a second portion of said movable polarizing code element, the first determination module responsive to a single illumination source that emits light that is directed at and unaltered before encountering the movable polarizing code element and thereafter unaltered before encountering a third illumination detector; and

a second determination module coupled to receive said amplitude and said quadrant and configured to determine an angular position of said movable polarizing code element using said amplitude and said quadrant.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hoffler	US 4,958,072	Sep. 18, 1990
Wijntjes	US 2005/0002032 A1	Jan. 6, 2005

The Examiner rejected claims 1 to 22 under 35 U.S.C. § 103(a) based upon the teachings of Wijntjes and Hoffler.

Independent claims 1, 9, and 17 each recite a method or apparatus for determining the angular position of a movable polarizing code element including an illumination source that emits light and “is directed at and unaltered before encountering the movable polarizing code element and thereafter unaltered before encountering a third illumination detector” (claims 1, 9, 17). The Examiner relies on Wijntjes as disclosing the illumination source and third illumination detector as set forth in claims 1, 9, and 17 (Ans. 3-7, 9-11). More specifically, the Examiner relies on (i) light source 110 of Wijntjes as teaching the recited illumination source, and (ii) photodetector element 802A (Fig. 16A) and detector 120d (Figs. 4-7, 9) of

Wijntjes as teaching the third illumination detector of the claims (Ans. 3-7).

Appellants argue, *inter alia*, the applied reference to Wijntjes fails to teach or suggest an illumination source that emits light and “is directed at and unaltered before encountering the movable polarizing code element and thereafter unaltered before encountering a third illumination detector” as set forth in claims 1, 9, and 17 (App. Br. 19-25). More specifically, Appellants argue (Reply Br. 4-5) that detector 120d detects light that is altered by lens 112 and not *unaltered* light as set forth in the noted claim limitations.

With respect to the illumination source that emits light that is “unaltered before encountering the movable polarizing code element and thereafter unaltered before encountering a third illumination detector” as set forth in claims 1, 9, and 17, Wijntjes fails to teach directing *unaltered* light at the movable polarizing code element 114/314/414/654C (*see* Figs. 4-7, 9) because lens 112 has optical properties that will affect the light emitted from light source 110 before it is directed to the movable polarizing code element. Accordingly, Appellants’ argument (Reply Br. 4-5) that Wijntjes transmits *altered* light from the illumination source to the movable polarizing code element, and thus, *altered* light to the illumination detector 120d, is convincing. Furthermore, Appellants’ arguments (App. Br. 21, 23, 25) that Hoffer alters light emitted from light source 22 via couplers 23/24/28 and demux 26 prior to reaching the code wheel 52 are also persuasive, and have not been rebutted by the Examiner (*see* Ans. 9-10).

The obviousness rejection of claims 1, 9, and 17 is not sustained because the Examiner’s factual bases and articulated reasoning concerning

the teachings of Wijntjes do not support a legal conclusion of obviousness (see *In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988); *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)), and because the teachings of Hoffler do not cure the noted shortcomings in the teachings of Wijntjes. See *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

Turning to the obviousness rejection of claims 2 to 8, 10 to 16, and 18 to 22, which each ultimately depend from claims 1, 9, and 17, respectively, the Examiner relies upon Wijntjes' illumination source 110 and illumination detector 802A and 120d as teaching the recited illumination source that emits and directs unaltered light at the movable polarizing code element and unaltered light at a third illumination detector (Ans. 3-9, 11). Thus, Appellants' argument (App. Br. 19-26) that Wijntjes fails to teach the illumination source that emits light and is directed at and unaltered before encountering the movable polarizing code element and thereafter unaltered before encountering a third illumination detector as set forth in claims 2 to 8, 10 to 16, and 18 to 22 is persuasive for the same reasons as discussed *supra* with regard to claims 1, 9, and 17.

Inasmuch as the lens 112 of Wijntjes *alters* light emitted from light source 110, the combined teachings of the references lack an illumination source and third illumination detector for encountering *unaltered* light as set forth in all of the claims on appeal. Thus, the obviousness rejection of claims 1 to 22 is not sustained because the applied references neither teach nor would have suggested to one of ordinary skill in the art the claimed subject matter, and because the Examiner's factual bases and articulated

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reasoning as to the teachings of Wijntjes and Hoffler do not support a legal conclusion of obviousness. *See Fine*, 837 F.2d at 1073; *Kahn*, 441 F.3d at 988.

The decision of the Examiner is reversed.

REVERSED

KIS

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